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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/812,274	03/29/2004	Sean T. Crowley	AMKOR-022CB1	2255

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STETINA BRUNDA GARRED & BRUCKER
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ALISO VIEJO, CA 92656

EXAMINER

LE, THAO X

ART UNIT	PAPER NUMBER
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2814

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/08/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No. 10/812,274	Applicant(s) CROWLEY ET AL.	
	Examiner Thao X. Le	Art Unit 2814	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12/4/06.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 and 16-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 and 16-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. Applicant's request for reconsideration of the finality of the rejection of the last Office action dated 09/27/06 is persuasive and, therefore, the finality of that action is withdrawn. However, the following final Office action is based on the Applicant's amendment dated 05 May 2006.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-4, 7-14, 16-21 are rejected under 35 U.S.C. 102(e) as being anticipated by US 6421013 to Chung.

Regarding claims 1, 13, and 21, Chung discloses a semiconductor package in fig. 6 comprising: a single non-conductive film layer 20, column 5 line 65 defining opposed top and bottom film surfaces and a peripheral edge, fig. 6, the film layer 20 including a plurality of vias 22/24, col. 3 line 65, disposed therein; a plurality of upper leads 34/39/50, fig. 4, disposed on the top film surface adjacent respective ones of the vias 22/24; a plurality of lower leads 32/34/50, fig. 3, disposed on the bottom film

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surface 20 adjacent respective ones of the vias 22/24, each of the lower leads 50 being electrically connected to a respective one of the upper leads ; a plurality of transmission line elements 36-38, column 5 lines 5, disposed on the top film surface and electrically connected to at least one of the upper leads 50, fig. 4-6, at least one semiconductor die 40 attached to the top film surface 20 and electrically connected to at least one of the upper leads 50 and the transmission line element 36-38, fig. 6, a package body 58, col. 13 line 7, disposed on the film layer 20 and extending to the peripheral edge thereof, fig. 6, the package body 58 encapsulating the semiconductor die 40, the upper leads 50,34,39, the transmission line elements 36-38, and being adhered to the top film surface 20, and defining a plurality of generally vertical body side surfaces which are substantially coplanar with respective ones of the film side surfaces and a generally horizontally body top surface which is substantially orthogonal to the body surfaces, fig. 6.

Regarding claim 2, Chung discloses the semiconductor package comprising a plurality of transmission line elements 36-38 on the top film surface 20, the semiconductor die 40 being electrically connected to at least one of the transmission line elements 36-38, fig. 1 or 6.

Regarding claims 3, 14, Chung discloses the semiconductor package wherein the transmission line elements 36-38 are selected from the group consisting of an inductor (the coil antenna 30 is considered to be an inductor).

Regarding claim 4, Chung discloses the semiconductor package wherein the lower lead and upper lead and the transmission line element each include a nickel/gold plated thereon, col. 9 line 42.

Regarding claims 7-8 and 16-17, Chung discloses the semiconductor package further comprising a plurality of pads 42/44, fig. 6, disposed on the top film surface and electrically connected to respective ones of the upper leads 34/39/50, the pads being arranged in at least one set which is configured to accommodate a passive device 30, wherein the pads are arranged in multiple sets, each of the sets being configured to accommodate a passive device 30.

Regarding claims 9, 18, Chung discloses the semiconductor package wherein the vias 22/24 are segregated into an outer set 22 which extends along and in relative close proximity to a peripheral edge of the non-conductive sheet 20, and an inner set 24 which is disposed within the outer set 22, fig. 6.

Regarding claim 10, Chung discloses the semiconductor package wherein the non-conductive sheet 20 is fabricated from a polyimide film, col. 5 line 66..

Regarding claims 11-12, 19-20, Chung discloses the semiconductor package wherein each of the vias 22/24 is lined or filled with a conductive metal material 50 to facilitate the electrical connection of the upper leads to respective ones of the lower leads, fig. 6.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 5-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 6421013 to Chung in view of US 6686649 to Mathews et al.

Regarding claim 5, Chung discloses the semiconductor package wherein the semiconductor die 40 is electrically connected to the upper lead and to the transmission line element by flip-chip in fig. 6. In addition, Chung discloses the conventional wire bonding, col. 25 line 40, can connect the semiconductor die.

Also, Mathews discloses the semiconductor package wherein the semiconductor die 104 is connected to a lead and a transmission line 136 by bond wire 112, fig. 2. At the time the invention was made; it would have been

obvious to one of ordinary skill in the art to use the bond wires teaching of Chung or Mathews as claimed, because such bond wires is typical or conventional in the art.

Response to Arguments

7. Applicant's arguments with respect to claims 1-14, 16-20 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.


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9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thao X. Le whose telephone number is (571) 272-1708. The examiner can normally be reached on M-F from 8:00 AM - 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wael M. Fahmy can be reached on (571) 272 -1705. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

26 Dec. 2006



THAO X. LE
PRIMARY PATENT EXAMINER